

ABSTRACT

Solid, solvent-free inks are provided for use in hot melt flexographic printing. The ink is composed of a pigment; a thermoplastic binder which is an ethylene copolymer, a hydrocarbon resin, or a combination thereof; a wax which is a highly branched hydrocarbon wax, a polyethylene homopolymer wax, an oxidized polyethylene wax, an animal wax, a vegetable wax or combinations thereof; a solid linear alcohol; and, a dispersing agent. The ink may also contain a solid plasticizer. The solid ink has a melting point of about 75°C or greater, and when heated to a temperature between about 90°C and about 135°C, a molten ink is formed which has a viscosity between about 100 cps and about 1200 cps. The solid inks are used in melt flexographic printing by heating the ink to a temperature greater than about 90°C to form a molten ink which has a viscosity between about 100 cps and about 1200 cps; applying the molten ink to the surface of a heated anilox roller in operational contact with a heated flexographic printing plate; and printing the applied molten ink from the printing plate onto a substrate such as conventional print stock, polymeric films, metal sheets, etc.